REMARKS/ARGUMENTS

Claims 1-22 were originally submitted in this application. **Claims 19-22 are withdrawn** without prejudice. **Claim 1-4 and 7-8 have been amended** and **Claim 13 is cancelled** herein. **Claims 23-28 are added**. Accordingly, **Claims 1-12, 14-18, and 23-28 are currently pending** in the application.

Election:

The Applicants confirm the telephonic restriction made by T. Croll dated September 7, 2005. Accordingly, this restriction is affirmed.

The Drawings:

The Applicants understand the Examiner's objection to the Drawings. Accordingly, formal drawings are being prepared. The applicants will submit the formal drawings as soon as they become available. Accordingly, the applicants respectfully request that this objection be held in abeyance until the formal drawings are submitted.

Amendments to the Specification:

The Applicants have amended the title to now read: "Method of Vaporizing and Ionizing Metals for Use in Semiconductor Processing". The applicants respectfully submit that this Amendment satisfies the pending objection to the title and accordingly request that this objection be withdrawn.

Claim Rejections under 35 U.S.C. 103:

The Examiner has rejected claims all pending claims under 35 U.S.C. 103 unpatentable over *Johnson et al.* (U.S. Pat. 4,229,260 hereinafter *Johnson*). Applicants traverse these rejections as discussed below.

The Examiner has rejected all claims 1-7, 9-13, 16-17, and 24 under 35 U.S.C. 103 as being unpatentable over *Johnson*. The applicants respectfully disagree with this contention for reasons explained below.

Fundamentally, the present invention embodies a method for heating and vaporizing a class of metal and metal salts for use in semiconductor deposition and implantation processing.

As is known to those having ordinary skill in the art such processing is incredibly delicate and precise. This is pointed out to illustrate that the differences between the cited art and the claimed invention are not subtle. *Johnson* is directed to a method of depositing a thick layer of gettering material on the outside of a nuclear fuel rod. This is a brute force coating method where precision is of no particular concern. This is borne out by *Johnson*'s thickness requirements of on the order of 0.5-15 mils thick. There are modern wafers thinner than that. Quite simply 1980's nuclear technology is not applicable to 21st century semiconductor processing. The Applicants refer the Examiner to paragraph [0023] (page 7) where it is pointed out that the claimed inventive deposition and vaporization techniques can be used to form layers of one atom thick! This is 1000's of orders of magnitude in difference.

Accordingly, one of ordinary skill in the art would not look to obsolete 1980's nuclear technology to find an atomic layer deposition technology. There is no teaching or suggestion that such a technology can even be applied to semiconductor processing with ANY expectation of success at all. Accordingly, one of ordinary skill in the art would not achieve the claimed invention using the cited art. This is in fact made quite clear in the action where no direct application of the cited art to ANY dependent claims is made. In other words no case is made in the Action that the claimed invention is obvious in view of cited art.

However, certain amendments are made to clear any doubt as to this issue.

For example, **Claim 2** has been amended to incorporate all limitations of base Claim 1 and dependent **Claim 13**. Accordingly, Claim 2 is exactly, word for word, Claim 13 without amendment. Claim 13 recites "vaporizing a metallic element or metallic element salt in the presence of the heated inert carrier gas, wherein the metallic element or salt is selected from the group consisting of Ca, Sr, Ba, Mn, Cd, Zn, $CaCl_2$, $CaBr_2$, $NbCl_5$ and $ZrCl_4$" no such materials are taught or suggested by the cited art. Accordingly, the is no *prima facie case of obviousness* made by the cited art. The applicants therefore respectfully request that this rejection be withdrawn as to Claim 13.

Claims 10-12, 14-18, and 22 all depend from Claim 2, and therefore, for at least the reasons advanced in support of Claim 2, are also believed to be allowable. Additionally, each of these dependent claims is believed to be allowable for reasons further absent the cited art. However, as stated previously, due to the present allowability of these claims no further discussion of these claims is necessary at this time. The applicants therefore respectfully request that this rejection be withdrawn as to Claims 10-12, 14-8, and 22.

Claim 1 has been amended to recite "**selectively ionizing the vaporized metallic element or salt to generate a plasma**". This is not taught in the cited references. Therefore, the cited art fails to establish a *prima facie* case of obviousness as to this claim. Accordingly, the applicants submit that this amendment successfully traverses the cited art. The applicants therefore respectfully request that this rejection be withdrawn as to Claim 1.

Claims 3-9 all depend from Claim 1, and therefore, for at least the reasons advanced in support of Claim 1, are also believed to be allowable. Additionally, each of these dependent claims is believed to be allowable for reasons further absent the cited art. However, as stated previously, due to the present allowability of these claims no further discussion of these claims is necessary at this time. The applicants therefore respectfully request that this rejection be withdrawn as to Claims 3-9.

New Claims:

Claims 23-28 all depend from Claim 1 which is believed to be allowable. Accordingly, the new claims are also believed to be allowable. Morever, each and every dependent limitation recited in each new claim is also believed to define additionally over the cited art. None of the dependent limitations are found in the cited references. Accordingly all of these claims are believed to define over the art of record. All of these claims are clearly directed toward ways and uses for the ionized material. No cited art teaches or suggests this. Accordingly, it is respectfully submitted that these claims are allowable over the art of record.

Conclusion:

In view of the foregoing amendments and remarks, it is respectfully submitted that the claimed invention as presently presented is patentable over the art of record and that this case is now in condition for allowance.

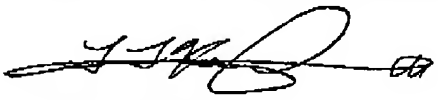
Accordingly, the applicants request withdrawal of all pending rejections and request reconsideration of the pending application and prompt passage to issuance. The applicants further clarify that any lack of response to any of the issues raised by the Examiner is not an admission by the applicants as to the accuracy of the Examiner's assertions with respect to such issues. Accordingly, applicants specifically reserve the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

Additionally, if any additional fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from Deposit Account No. 12-2252 (Order No. LSI1P212).

As always, the Examiner is urged to telephone the applicants' representative to discuss any matters pertaining to this case. Should the Examiner wish to contact the undersigned for any reason, the telephone number set out below can be used.

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP



Francis T. Kalinski II
Registration No. 44,177

P.O. Box 70250
Oakland, CA 94612-0250
Telephone: (650) 961-8300